

What is claimed is:

Claim 1. A flameproof thermoplastic resin composition substantially free of phenolic resin, red phosphorous and silicone resin comprising (A) about 40-95 parts by weight of a rubber modified styrene-containing graft copolymer resin, (B) about 5 - 60 parts by weight of polyphenylene ether resin; (C) about 5 - 30 parts by weight of aromatic phosphoric acid ester per 100 part by weight of (A) and (B), wherein the rubber modified styrene-containing resin (A) comprises a styrene-containing graft copolymer resin comprising

- a) about 10-60 % by weight rubber and
- b) about 90-40% by weight of a styrene-containing copolymer grafted onto the rubber wherein the styrene-containing copolymer contains about 15-40% by weight of acrylonitrile

and wherein the styrene-containing copolymer chains in rubber modified styrene-containing resin (A) comprise

- (i) about 5-20% by weight having an acrylonitrile fractionation content of 0-9 % by weight
- (ii) about 10-40% by weight having an acrylonitrile fractionation content of 9-20 % by weight and
- (iii) about 40-80% by weight having an acrylonitrile fractionation content of not less than 20% by weight acrylonitrile

and the sum of (i), (ii), and (iii) is 100 % by weight of the total weight of styrene-containing copolymer chains in rubber modified styrene-containing resin (A).

Claim 2. Flameproof thermoplastic resin composition according to claim 1 wherein the rubber modified styrene-containing resin (A) comprises

- (A1) at least about 20% by weight of a styrene-containing graft copolymer resin comprising
 - a) about 10-60 % by weight rubber and

wherein R_1 , R_2 and R_3 independently of one another are hydrogen or C_1 - C_4 alkyl; X is a dialcohol derivative selected from the group consisting of resorcinol, diphenol, hydroquinol, bisphenol-A and bisphenol-S; and n is 0 - 4.

5 Claim 8. Flameproof thermoplastic resin composition according to claim 7 wherein the aromatic phosphoric acid ester (C) is a mixture of not less than two aromatic phosphoric acid ester compounds having a different n value.

10 Claim 9. Flameproof thermoplastic resin composition according to claim 7 wherein the aromatic phosphoric acid ester is selected from the group consisting of triphenyl phosphate, tricresyl phosphate, trixylenyl phosphate, tri(2,6-dimethyl phenyl) phosphate, tri(2,4,6-trimethyl phenyl) phosphate, tri(2,4-ditertiary butyl phenyl) phosphate, tri(2,6-ditertiary butyl phenyl) phosphate, resorcinol bis (diphenyl) phosphate, resorcinol bis(2,6-dimethyl phenyl) phosphate, resorcinol bis(2,4-ditertiary butyl phenyl) phosphate, hydroquinone (2,6-dimethyl phenyl) phosphate, and hydroquinone (2,4-ditertiary butyl phenyl) phosphate.

15 Claim 10. Flameproof thermoplastic resin composition according to claim 1 wherein the resin composition contains less than 3% by weight of polycarbonate based on the total weight of the composition.

20 Claim 11. A molding product prepared by the resin composition of claim 2.

25 Claim 12. A flameproof thermoplastic resin composition substantially free of phenolic resin, red phosphorous and silicone resin comprising (A) about 40 - 95 parts by weight of a rubber modified styrene-containing graft copolymer resin, (B) about 5 - 60 parts by weight of polyphenylene ether resin; (C) about 5 - 30 parts by weight of aromatic phosphoric acid ester per 100 part by weight of (A) and (B), wherein the rubber modified styrene-containing resin (A) comprises

(A1) about 20-100% by weight of a styrene-containing graft copolymer resin comprising

a) about 10-60 % by weight rubber and

b) about 90-40% by weight of a styrene-containing copolymer grafted onto the rubber wherein the styrene-containing copolymer contains about 15-40% by weight of acrylonitrile and

(A2) about 0-80% by weight of a styrene-containing copolymer containing about 15-40% by weight of acrylonitrile

wherein the styrene-containing copolymer chains in rubber modified styrene-containing resin (A) comprise

(i) about 5-20% by weight having an acrylonitrile fractionation content of 0-9 % by weight

(ii) about 10-40% by weight having an acrylonitrile fractionation content of 9-20 % by weight and

(iii) about 40-80% by weight having an acrylonitrile fractionation content of not less than 20% by weight acrylonitrile

and the sum of (i), (ii), and (iii) is 100 % by weight of the total weight of styrene-containing copolymer chains in rubber modified styrene-containing resin (A).

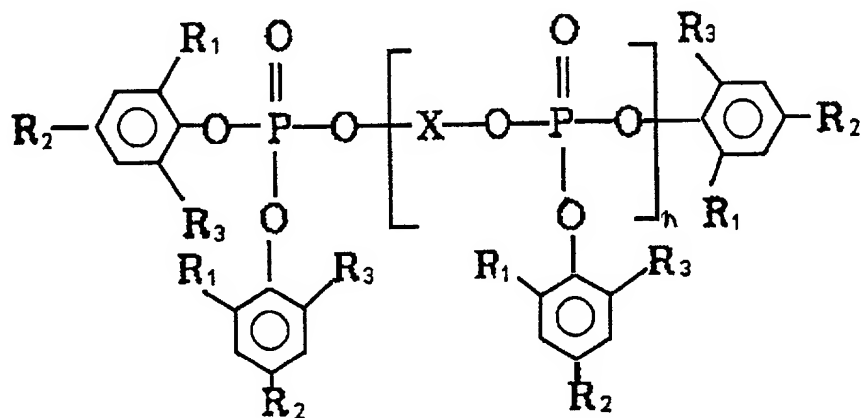
Claim 13. Flameproof thermoplastic resin composition according to claim 12 wherein the rubber modified styrene-containing resin (A) comprises about 30 - 90% by weight of a styrene-containing graft copolymer resin (A1).

Claim 14. Flameproof thermoplastic resin composition according to claim 12 wherein the styrene-containing graft copolymer resin (A1) comprises about 17 - 30% by weight of acrylonitrile.

Claim 15. Flameproof thermoplastic resin composition according to claim 12 wherein the (iii) is about 40 - 80% by weight having an acrylonitrile fractionation content of 20 - 50 % by weight acrylonitrile.

Claim 16. Flameproof thermoplastic resin composition according to claim 12 wherein the polyphenylene ether resin (B) is poly(2,6-dimethyl-1,4-phenylene) ether.

Claim 17. Flameproof thermoplastic resin composition according to claim 12 wherein the aromatic phosphoric acid ester has the following formula:



wherein R₁, R₂ and R₃ independently of one another are hydrogen or C₁-C₄ alkyl; X is a dialcohol derivative selected from the group consisting of resorcinol, diphenol, hydroquinol, bisphenol-A and bisphenol-S; and n is 0 - 4.

Claim 18. Flameproof thermoplastic resin composition according to claim 17 wherein the aromatic phosphoric acid ester (C) is a mixture of not less than two aromatic phosphoric acid ester compounds having a different n value.

Claim 19. Flameproof thermoplastic resin composition according to claim 17 wherein the aromatic phosphoric acid ester is selected from the group consisting of triphenyl phosphate, tricresyl phosphate, trixylenyl phosphate, tri(2,6-dimethyl phenyl) phosphate, tri(2,4,6-trimethyl phenyl) phosphate, tri(2,4-ditertiary butyl phenyl) phosphate, tri(2,6-ditertiary butyl phenyl) phosphate, resorcinol bis (diphenyl) phosphate, resorcinol bis(2,6-dimethyl phenyl) phosphate, resorcinol bis(2,4-ditertiary butyl phenyl) phosphate, hydroquinone (2,6-dimethyl phenyl) phosphate, and hydroquinone (2,4-ditertiary butyl phenyl) phosphate.

Claim 20. Flameproof thermoplastic resin composition according to claim 12 wherein the resin composition contains less than 3% by weight of polycarbonate based on the total weight of the composition.

5 Claim 21. A molding product prepared by the resin composition of claim 12.

10 Claim 22. A flameproof thermoplastic resin composition substantially free of phenolic resin, red phosphorous and silicone resin comprising (A) about 40 - 95 parts by weight of a rubber modified styrene-containing graft copolymer resin, (B) about 5 - 60 parts by weight of polyphenylene ether resin; (C) about 5 - 30 parts by weight of aromatic phosphoric acid ester per 100 part by weight of (A) and (B), wherein the rubber modified styrene-containing resin (A) comprises

(A1) a styrene-containing graft copolymer resin comprising

a) about 10-60 % by weight rubber and

b) about 90-40% by weight of a styrene-containing copolymer grafted onto the rubber wherein the styrene-containing copolymer contains about 15-40% by weight of acrylonitrile and

(A2) a styrene-containing copolymer containing about 15-40% by weight of acrylonitrile

20 wherein rubber modified resin (A) is prepared by combining graft copolymer (A1) and a sufficient amount of copolymer (A2) so that the the styrene-containing copolymer chains in rubber modified styrene-containing resin (A) comprise (i) about 5-20% by weight having an acrylonitrile fractionation content of 0-9 % by weight , (ii) about 10-40% by weight having an acrylonitrile fractionation content of 9-20 % by weight, and (iii) about 40-80% by weight having an acrylonitrile fractionation content of not less than 20% by weight acrylonitrile and the sum of (i), (ii), and (iii) is 100 % by weight of the total weight of styrene-containing copolymer chains in rubber modified styrene-containing resin (A).

30 Claim 23. A flameproof thermoplastic resin composition according to claim 22 wherein wherein the rubber modified styrene-containing resin (A) comprises at least about 20% (A1).

wherein R_1 , R_2 and R_3 independently of one another are hydrogen or C_1 - C_4 alkyl; X is a dialcohol derivative selected from the group consisting of resorcinol, diphenol, hydroquinol, bisphenol-A and bisphenol-S; and n is 0 - 4.

5 Claim 30. Flameproof thermoplastic resin composition according to claim 29 wherein the aromatic phosphoric acid ester (C) is a mixture of not less than two aromatic phosphoric acid ester compounds having a different n value.

10 Claim 31. Flameproof thermoplastic resin composition according to claim 29 wherein the aromatic phosphoric acid ester is selected from the group consisting of triphenyl phosphate, tricresyl phosphate, trixylenyl phosphate, tri(2,6-dimethyl phenyl) phosphate, tri(2,4,6-trimethyl phenyl) phosphate, tri(2,4-ditertiary butyl phenyl) phosphate, tri(2,6-ditertiary butyl phenyl) phosphate, resorcinol bis (diphenyl) phosphate, resorcinol bis(2,6-dimethyl phenyl) phosphate, resorcinol bis(2,4-ditertiary butyl phenyl) phosphate, hydroquinone (2,6-dimethyl phenyl) phosphate, and hydroquinone (2,4-ditertiary butyl phenyl) phosphate.

15 Claim 32. Flameproof thermoplastic resin composition according to claim 22 wherein the resin composition contains less than 3% by weight of polycarbonate based on the total weight of the composition.

20 Claim 33. A molding product prepared by the resin composition of claim 22.